

NUMATA & ASANO, "BIOLOGICAL FLORA OF JAPAN"
AND REMARKS ABOUT
PAEDERIA, PHRYMA, RABDOSIA, RAPANEA, SIGESBECKIA & VITEX

Otto & Isa Degener

One of us being familiar with the phanerogam flora of New England, the other being familiar with that of Germany and both of us having been exposed during a six weeks' tour of Japan in 1964 to the flora of its major islands, we were fascinated with Professors Makoto Numata and Sadao Asano's "Biological Flora of Japan - Sympetalae 2." The book printed in Tokyo by the Tsukiji Shokan Publishing Company on thick stock in 1970 "is the second in a series of five volumes on 'Biological Flora of Japan,' the first of which was issued in 1969. Included in this latest work are 25 families and 86 species from Caprifoliaceae to Clethraceae in sympetalae of dicotyledons." The book in bright green, cloth cover measuring 19.5 X 29 X 2.5 cm., consists of 200 pages. It is bilingual, namely in Japanese and English. It has 86 excellent, full page plates of line drawings facing the same number of pages showing a photograph of a habit of the plant with a brief annotation regarding its "Habitat" and "Life-form." Under the first, linearly arranged and briefly expressed, come Distribution, Climate, Soil, Physiography, and Vegetation; under the second, similarly arranged, Dormancy, Form, Disseminule Form, Radicoid Form, Growth Form, Sociability, Phenology and Remarks. The preface, perhaps expressed more in Japanese phraseology than in English, states that "This is not, of course, a Taxonomic flora, but ecological one mainly based on life-forms. Therefore, it does not aim at the complete enumeration of the whole flora. However, the application of this book to the Japanese flora is not restricted by the above-mentioned treatment of plants, because this is not a taxonomic flora."

As we reviewers are not ecologists, we are not capable of judging the work ecologically. Instead, we examined it taxonomically, and that involved studying the 86 beautifully executed drawings of 86 taxa. In so many cases these show in great detail not only the conventional fruit, seed and parts of flowers; but seedlings, dormant buds, bracts, stem cross sections, and the intricate branching of roots. The only figures we miss are pollen grains. We do not know whether it is stated in Japanese type, but for the sake of the mentally lazy English reader it might have been kind to have specified the family of each species in English at the head of each plate. We should have liked to see cited the author and book responsible for each scientific bi- and trinomial followed.

In leafing through the book, one of us thought he recognized New England plants; while the other thought she recognized European ones. Fascinated, one of us opened volume two of Britton & Brown's *Flora* and the other, *Rothmaler's *Excursionsflora*. Both of us seemed to recognize old friends yet, somehow, these friends looked somehow different. The explanation is found conveniently and in great detail in the up-dated reprint of Hui-Lin Li's "Floristic Relationships between Eastern Asia and Eastern North America," pp. 61, maps 56. 1971.

In short (expressing ourselves in a low, English, fog index for the Japanese reader of this review), the once-upon-a-time temperate north polar region possessed a more or less uniform mantle of vegetation. As the warmth decreased, this flora was not only killed off by frigid weather in the north but forced to emigrate southward. As these shivering survivors in Europe, Asia and Eastern North America could no longer readily exchange seeds and pollen, they began to speciate. Hence today's species depicted in Drs. Numata and Asano's fascinating tome, have for the most part close relatives in Both America and Europe. Taxonomically expressed, with of course some exceptions, these Japanese plants do not belong to the species we reviewers know, but they still do belong to the same genera.

Ignoring a few anomalies caused by man's introduction of species from one area to another, we find that of about 66 Japanese genera shown in this volume,

45 occur likewise in the Eastern United States.

35 occur likewise in Europe.

31 occur likewise in both the Eastern United States and Europe.

Tending to consider differences in plants more important than likenesses, we "splitters" prefer to alter a few of the names used:

* On a protracted botanical excursion by railroad from Montreal to Churchill and back, one of us had the opportunity to meet Dr. & Mrs. Werner Rothmaler and the other to renew her acquaintance with the couple begun in Berlin-Dahlem, West Germany, a decade or so before. Dr. Rothmaler (Aug. 8, 1908 - April 13, 1963) of Ernst-Moritz-Arndt University, Greifswald, East Germany, we remember on the excursion as a tall, slender, very active man with blond hair he whipped into place with a toss of his head. He proved himself an astute taxonomist, readily identifying to the genus most of the plants he collected with us in Canada; why not, as explained above, when the genera are often, almost circumpolar and he knew their German representatives expertly?

Paederia mairei Lèveillé in Fedde Repert. 13: 179. 1914.
Paederia scandens var. mairei sensu Numata & Asano, *ibid.* 24.

Phryma asiatica (Hara) Deg. & Deg., comb. nov.
Phryma leptostachya var. asiatica Hara in Enum. Sperm.
 Jap. 1: 297. 1948.
Phryma leptostachya var. asiatica sensu Numata & Asano,
ibid. 30.

Rabdosia inflexus (Thunb.) Deg. & Deg., comb. nov.
Ocymum inflexum Thunb. Fl. Jap. 249. 1784.
Isodon inflexus Kudo, Labiat. Sino-Jap. 127. 1929.
Isodon inflexus sensu Numata & Asano, *ibid.* 76.

While checking the above binomials in the Kew Index of the Marie C. Neal Herbarium in the Bernice Pauahi Bishop Museum, Honolulu, our attention was rivetted on the genus Rapanea so far as the Hawaiian Islands are involved. Hence we here intercalate some changes we judge advisable:

Rapanea alyxifolia (Hosaka) Deg. & Deg., comb. nov.
Myrsine sandwicensis var. buxifolia Wawra in Flora 57:
 526. 1874.
Myrsine alyxifolia Hosaka in Occas. Pap. B.P. Bish. Mus.
 16: 51. 1940.

Rapanea degeneri (Hosaka) Deg. & Deg., comb. nov.
Myrsine degeneri Hosaka, *ibid.* 58.

Rapanea emarginata (Rock) Deg. & Deg., comb. nov.
Suttonia hillebrandii var. emarginata Rock, Indig. Trees
 Haw. 373. 1913.
Myrsine emarginata Hosaka, *ibid.* 64.

Rapanea fosbergii (Hosaka) Deg. & Deg.
Myrsine fosbergii Hosaka *ibid.* 46.

Rapanea fosbergii var. acuminata (Wawra) Deg. & Deg., comb.
 nov.
Myrsine gaudichaudii forma acuminata Wawra in Flora 57:
 524. 1874.
Myrsine fosbergii var. acuminata Hosaka *ibid.* 47.

Rapanea helleri Deg. & Deg., nom. nov.
Myrsine lanceolata Heller in Minn. Bot. Stud. 1: 873.
 1897.
 Not Myrsine sandwicensis var. lanceolata Wawra in Flora
 57: 526. 1874.
Suttonia angustifolia Mez in Engler, Pflzreich. 9 (IV. 236):
 337. 1902.
Suttonia lanceolata Rock, Indig. Trees Haw. 379. 1913.

Myrsine angustifolia Hosaka, *ibid.* 42.

Not Myrsine angustifolia D. Dietr. Syn. Pl. 1: 619. 1839-52.

Not Rapanea angustifolia Merr. in Philipp. Journ. Sci. 20: 429. 1922.

We here name this species in honor of A.A. Heller, collector of the type on Kauai, to dispell some of the confusion so well untangled by Hosaka (*ibid.* 42-45).

Rapanea hosakana Deg. & Deg., nom. nov.

Myrsine sandwicensis var. denticulata Wawra in Flora 57: 526. 1874.

Myrsine sandwicensis var. denticulata Hillebr. Fl. Haw. Isl. 281. 1888.

Myrsine denticulata Hosaka, *ibid.* 49.

Not Rapanea denticulata Rusby in Phytologia 1: 72. 1934.

This species we here rename for our friend Mr. Edward Y. Hosaka.

Rapanea juddii (Hosaka) Deg. & Deg., comb. nov.

Myrsine juddii Hosaka, *ibid.* 39.

Rapanea kokeeensis (Hosaka) Deg. & Deg. comb. nov.

Myrsine kokeeana (sic) Hosaka, *ibid.* 48.

Kokee is not a person, but a locality on Kauai.

Rapanea linearifolia (Hosaka) Deg. & Deg., comb. nov.

Myrsine linearifolia Hosaka, *ibid.* 41.

Rapanea mezii (Hosaka) Deg. & Deg., comb. nov.

Myrsine mezii Hosaka, *ibid.* 34.

Rapanea petiolata (Hosaka) Deg. & Deg., comb. nov.

Myrsine petiolata Hosaka, *ibid.* 45.

Rapanea pukooensis (Lévl.) Deg. & Deg., comb. nov.

Suttonia pukooensis (sic) Lèveillé in Fedde Repert. 10: 444.

1912. Type is Faurie 42 collected at Pukoo (not Puko), Molokai.

Myrsine pukooensis Hosaka, *ibid.* 56.

Rapanea st.-johnii (Hosaka) Deg. & Deg., comb. nov.

Myrsine st.-johnii Hosaka, *ibid.* 37.

"Siegesbeckia," as given on the last page of the index, we prefer to spell "Sigesbeckia." We were alerted to the genus because Sigesbeckia orientalis L., is naturalized in the Hawaiian Islands and because this species, a new record for Germany, was collected by one of us in a roadside ditch in Hamburg in 1952. This specimen is deposited in Berlin-Dahlem.

Vitex rotundifolia L. f., shown on plate 99 of Numata & Asano's Flora is so similar to the plate of Vitex trifolia var. simplicifolia Gaud., as shown in Degener, Flora Hawaiiensis under Family 315 Sept. 15, 1946, that we suspect the latter trinomial wrong.

The "Biological Flora of Japan" is so beautifully and thoroughly illustrated that we look forward with expectation for the appearance of the three remaining volumes. We do hope that for each taxon shown we shall have the scientific family name as well as full citation of the literature that validated its bi- or trinomial.

A NEW COMBINATION IN CLERODENDRUM

Harold N. Moldenke

CLERODENDRUM INDICUM f. SEMISERRATUM (Wall.) Moldenke, comb. nov.
Clerodendron semiserratum Wall., Numer. List [49], hyponym.

1829; Clerodendron siphonanthus var. semiserrata (Wall.)

C. B. Clarke in Hook. f., Fl. Brit. India 4: 595. 1885.

This form is based on Wallich 1785 from Prome and Seguin, in Upper Burma, collected in 1826.